



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R05-OAR-2021-0536; FRL-9802-01-R5]

**Approval and Promulgation of Air Quality Implementation Plans;
Michigan; Federal Implementation Plan for the Detroit Sulfur
Dioxide Nonattainment Area**

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing a Federal Implementation Plan (FIP) for attaining the 2010 sulfur dioxide (SO₂) primary national ambient air quality standard (NAAQS) for the Detroit SO₂ nonattainment area. The FIP includes an attainment demonstration and other elements required under the Clean Air Act (CAA). In addition to an attainment demonstration, the FIP addresses the requirement for meeting reasonable further progress (RFP) toward attainment of the NAAQS, reasonably available control measures and reasonably available control technology (RACT/RACM), enforceable emission limitations and control measures to provide for NAAQS attainment, and contingency measures. This action supplements a prior action which found that Michigan had satisfied emission inventory (EI) and nonattainment new source review (NSR) requirements for this area but had not met requirements for the elements addressed in the proposed FIP. EPA is proposing to determine that the FIP provides for attainment of the 2010

primary SO₂ NAAQS in the Detroit SO₂ nonattainment area and meets the other applicable requirements under the CAA.

DATES: Comments must be received on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

Virtual Public Hearing. In order to comply with current Centers for Disease Control and Prevention (CDC) recommendations, as well as state and local orders, for social distancing to limit the spread of COVID-19, EPA is holding a virtual public hearing to provide interested parties the opportunity to present data, views, or arguments concerning the proposal. EPA will hold a virtual public hearing to solicit comments on **[INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The hearing will convene at 3:00 p.m. Eastern Time (ET) and will conclude at 9:00 p.m. ET, or 15 minutes after the last pre-registered presenter in attendance has presented if there are no additional presenters. EPA will announce further details, including information on how to register for the virtual public hearing, on the virtual public hearing website at <https://www.epa.gov/mi/detroit-so2-federal-implementation-plan>.

EPA will begin pre-registering presenters and attendees for the hearing upon publication of this document in the *Federal Register*. To pre-register to attend or present at the virtual public hearing, please use the online registration form available at <https://www.epa.gov/mi/detroit-so2-federal-implementation-plan> or contact Abigail Teener at 312-353-7314 or

by email at *DetroitFIP@epa.gov*. The last day to pre-register to present at the hearing will be **[INSERT DATE 10 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. On **[INSERT DATE 12 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, EPA will post a general agenda for the hearing that will list pre-registered presenters in approximate order at <https://www.epa.gov/mi/detroit-so2-federal-implementation-plan>. Additionally, requests to present will be taken on the day of the hearing as time allows.

EPA will make every effort to follow the schedule as closely as possible on the day of the hearing; however, please plan for the hearing to run either ahead of schedule or behind schedule. Each commenter will have 5 minutes to provide oral testimony. EPA encourages commenters to provide EPA with a copy of their oral testimony electronically by including it in the registration form or emailing it to *DetroitFIP@epa.gov*. EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as oral comments and supporting information presented at the virtual public hearing. A transcript of the virtual public hearing, as well as copies of oral presentations submitted to EPA, will be included in the docket for this action.

EPA is asking all hearing attendees to pre-register, even those who do not intend to present. EPA will send information

on how to join the public hearing to pre-registered attendees and presenters.

Please note that any updates made to any aspect of the hearing will be posted online at <https://www.epa.gov/mi/detroit-so2-federal-implementation-plan>. While EPA expects the hearing to go forward as set forth above, please monitor our website or contact Abigail Teener at 312-353-7314 or DetroitFIP@epa.gov to determine if there are any updates. EPA does not intend to publish a document in the *Federal Register* announcing updates.

If you require the services of a translator or a special accommodation such as audio description/closed captioning, please pre-register for the hearing with Abigail Teener at 312-353-7314 or DetroitFIP@epa.gov and describe your needs by

[INSERT DATE 7 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. EPA may not be able to arrange accommodations without advance notice.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R05-OAR-2021-0536 at <https://www.regulations.gov>, or via email to arra.sarah@epa.gov. For comments submitted at [Regulations.gov](https://www.regulations.gov), follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from [Regulations.gov](https://www.regulations.gov). For either manner of submission, EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia

submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.* on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www2.epa.gov/dockets/commenting-epa-dockets>.

FOR FURTHER INFORMATION CONTACT: Abigail Teener, Environmental Engineer, Attainment Planning and Maintenance Section, Air Programs Branch (AR-18J), Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 353-7314, teener.abigail@epa.gov. The EPA Region 5 office is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays and facility closures due to COVID-19.

SUPPLEMENTARY INFORMATION: This supplementary information section is arranged as follows:

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I. SO₂ Background.

On June 22, 2010, EPA published a new 1-hour primary SO₂ NAAQS of 75 parts per billion (ppb), which is met at an ambient air quality monitoring site when the 3-year average of the annual 99th percentile of daily maximum 1-hour average concentrations does not exceed 75 ppb, as determined in accordance with appendix T of 40 CFR part 50. See 75 FR 35520, codified at 40 CFR 50.17(a)-(b). On August 5, 2013, EPA designated 29 areas of the country as nonattainment for the 2010 SO₂ NAAQS, including the Detroit area within the State of

Michigan. See 78 FR 47191, codified at 40 CFR part 81, subpart C. These area designations became effective on October 4, 2013. Section 191 of the CAA directs states to submit state implementation plans (SIPs) for areas designated as nonattainment for the SO₂ NAAQS to EPA within 18 months of the effective date of the designation, *i.e.*, by no later than April 4, 2015 in this case. These SIPs were required to demonstrate that their respective areas will attain the NAAQS as expeditiously as practicable, but no later than 5 years from the effective date of designation, which was October 4, 2018.

II. Detroit Background.

For a number of nonattainment areas, including the Detroit area, EPA published an action on March 18, 2016, effective April 18, 2016, finding that Michigan and other pertinent states had failed to submit the required SO₂ nonattainment plan by the submittal deadline (81 FR 14736). This finding initiated a deadline under CAA section 179(a) for the potential imposition of 2-to-1 NSR offset and federal highway funding sanctions. Additionally, under CAA section 110(c), the finding triggered a requirement that EPA promulgate a FIP within two years of the finding unless, by that time, (a) the state had made the necessary complete submittal, and (b) EPA had approved the submittal as meeting applicable requirements.

Michigan submitted the Detroit SO₂ attainment plan on May 31, 2016, and submitted associated final enforceable measures on June 30, 2016. Michigan's May 31, 2016, submittal was

considered administratively complete six months after its submission to EPA, which terminated the sanctions clock per EPA's sanctions regulations at 40 CFR 52.31 but did not satisfy EPA's FIP obligation under CAA section 110(c). As noted previously, EPA's requirement to promulgate a FIP would remain in place unless (a) the state had made the necessary complete submittal, and (b) EPA had approved the submittal as meeting applicable requirements.

On March 19, 2021, EPA partially approved and partially disapproved Michigan's SO₂ plan as submitted in 2016 (86 FR 14827). EPA approved the base-year emissions inventory and affirmed that the NSR requirements for the area had previously been met on December 16, 2013 (78 FR 76064). EPA also approved the enforceable control measures for two facilities as SIP strengthening. At that time, EPA disapproved the attainment demonstration, as well as the requirements for meeting RFP toward attainment of the NAAQS, RACM/RACT, and contingency measures. Additionally, EPA disapproved the plan's control measures for two facilities as not demonstrating attainment. (For more details, see section IV.A of this action.) EPA's March 19, 2021, partial disapproval started a new sanctions clock which is stopped by meeting the conditions of EPA's regulations at 40 CFR 52.31. The partial disapproval did not have any impact on the FIP clock, which is stopped by a full SIP approval or EPA's promulgation of a FIP.

As Michigan has not submitted an approvable plan for the Detroit area, the remainder of this action describes EPA requirements that SO₂ nonattainment plans must meet and proposes a FIP for the Detroit area with respect to these requirements. Finalizing this action will satisfy EPA's obligation to promulgate a FIP, which was initiated by the March 18, 2016 finding that Michigan had failed to submit the required SO₂ nonattainment plan by the submittal deadline (81 FR 14736). It will also satisfy the requirement in the court order issued on February 15, 2022, in *Center for Biological Diversity, et al. v. Regan*, No. 4:21-cv-06166-JST (N.D. Cal.), directing EPA to either approve a SIP for Detroit meeting the applicable CAA requirements or promulgate a FIP for Detroit no later than September 30, 2022.

III. Requirements for SO₂ Nonattainment Area Plans.

Nonattainment area plans for SO₂ must meet the applicable requirements of the CAA, and specifically CAA sections 110, 172, 191 and 192. EPA's regulations governing nonattainment area plans are set forth at 40 CFR part 51, with specific procedural requirements and control strategy requirements residing at subparts F and G, respectively. Soon after Congress enacted the 1990 Amendments to the CAA, EPA issued comprehensive guidance on nonattainment plans, in a document entitled the "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," published at 57 FR 13498 (April 16, 1992) (General Preamble). Among other things, the General Preamble

addressed SO₂ nonattainment plans and fundamental principles for control strategies. *Id.*, at 13545-49, 13567-68. On April 23, 2014, EPA issued recommended guidance for meeting the statutory requirements in SO₂ SIPs, in a document entitled, "Guidance for 1-Hour SO₂ Nonattainment Area SIP Submissions," available at https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf. While this guidance was intended for SIP submissions, the requirements outlined in the document are also applicable to FIPs. In this guidance, EPA described the statutory requirements for a complete nonattainment area plan, which includes: an accurate emissions inventory of current emissions for all sources of SO₂ within the nonattainment area; an attainment demonstration; demonstration of RFP; implementation of RACM (including RACT); NSR; emissions limitations and control measures as necessary to attain the NAAQS; and adequate contingency measures for the affected area, which are to apply if the area fails to attain the standard by the attainment date.

In order for a nonattainment area plan to meet the requirements of CAA sections 110, 172 and 191-192, and EPA's regulations at 40 CFR part 51, the plan for the affected area needs to demonstrate that each of the aforementioned requirements have been met. Under CAA sections 110(1) and 193, a nonattainment area plan may not interfere with any applicable requirement concerning NAAQS attainment and RFP, or any other applicable requirement, and no requirement in effect (or

required to be adopted by an order, settlement, agreement, or plan in effect before November 15, 1990) in any area which is a nonattainment area for any air pollutant, may be modified in any manner unless it ensures equivalent or greater emission reductions of such air pollutant.

CAA section 172(c)(1) requires nonattainment area plans to demonstrate attainment of the NAAQS. 40 CFR part 51, subpart G, further delineates the control strategy requirements that nonattainment area plans must meet, and EPA has long required that all nonattainment area plans and control strategies reflect four fundamental principles of quantification, enforceability, replicability, and accountability. General Preamble at 13567-68. SO₂ attainment plans must consist of two components: (1) emission limits and other control measures that ensure implementation of permanent, enforceable and necessary emission controls, and (2) a modeling analysis which meets the requirements of 40 CFR part 51 appendix W, which demonstrates that these emission limits and control measures provide for timely attainment of the primary SO₂ NAAQS as expeditiously as practicable, but by no later than the attainment date for the affected area. In all cases, the emission limits and control measures must be accompanied by appropriate methods and conditions to determine compliance with the respective emission limits and control measures and must be quantifiable (*i.e.*, a specific amount of emission reduction can be ascribed to the measures), fully enforceable (specifying clear, unambiguous and

measurable requirements for which compliance can be practicably determined), replicable (the procedures for determining compliance are sufficiently specific and non-subjective so that two independent entities applying the procedures would obtain the same result), and accountable (source specific limits must be permanent and must reflect the assumptions used in the attainment demonstrations).

Preferred air quality models for use in regulatory applications are described in appendix A of EPA's *Guideline on Air Quality Models (40 CFR part 51, appendix W)*. In 2005, EPA promulgated AERMOD as the Agency's preferred near-field dispersion modeling for a wide range of regulatory applications addressing stationary sources (for example in estimating SO₂ concentrations) in all types of terrain based on extensive developmental and performance evaluation. Supplemental guidance on modeling for purposes of demonstrating attainment of the SO₂ standard is provided in appendix A to the April 23, 2014 SO₂ nonattainment area SIP guidance document referenced above. Appendix A provides extensive guidance on the modeling domain, the source inputs, assorted types of meteorological data, and background concentrations. Consistency with the recommendations in this guidance is generally necessary for the attainment demonstration to offer adequately reliable assurance that the plan provides for attainment.

As stated previously, attainment demonstrations for the 2010 1-hour primary SO₂ NAAQS must demonstrate future attainment

and maintenance of the NAAQS in the entire area designated as nonattainment (*i.e.*, not just at the violating monitor). This is demonstrated by using air quality dispersion modeling (see appendix W to 40 CFR part 51) that shows that the mix of sources, enforceable control measures, and emission rates in an identified area will not lead to a violation of the SO₂ NAAQS. For a short-term (*i.e.*, 1-hour) standard, EPA believes that dispersion modeling, using allowable emissions and addressing stationary sources in the affected area (and in some cases those sources located outside the nonattainment area which may affect attainment in the area) is technically appropriate, efficient and effective in demonstrating attainment in nonattainment areas because it takes into consideration combinations of meteorological and emission source operating conditions that may contribute to peak ground-level concentrations of SO₂.

The meteorological data used in the analysis should generally be processed with the most recent version of AERMET. Estimated concentrations should include ambient background concentrations, should follow the form of the standard, and should be calculated as described in section 2.6.1.2 of the August 23, 2010 clarification memo on "Applicability of appendix W Modeling Guidance for the 1-hr SO₂ National Ambient Air Quality Standard" (U.S. EPA, 2010).

IV. Control Strategy.

A. Existing Control Strategies

Several control strategies for the Detroit area are already

in place as a result of actions taken by the State related to the development of Michigan's 2016 attainment plan. The remainder of this sub-section is a discussion of Michigan's 2016 submittal and the existing control strategies that EPA is proposing to include as part of the FIP.

Michigan's 2016 submittal included a modeling demonstration that contained an assessment of the air quality impacts Michigan expected to result from emission limitations governing the following sources: U.S. Steel (Ecorse and Zug Island), EES Coke, DTE Energy (DTE) River Rouge, DTE Trenton Channel, Carmeuse Lime, DTE Monroe, Cleveland-Cliffs Steel Corporation (formerly AK or Severstal Steel), Dearborn Industrial Generation (DIG), and Marathon Refinery. From the base case modeling scenario, Michigan determined that Carmeuse Lime was causing violations in the model at a group of receptors surrounding the Carmeuse Lime facility, and that U.S. Steel, DTE River Rouge, and DTE Trenton Channel were all contributing to overlapping violations at a group of receptors near the northeast side of Zug Island.¹ No other modeled sources in or nearby the nonattainment area were found to be significantly contributing to the modeled violations.

Michigan ran a variety of control scenarios to determine a reduction strategy for the area and submitted in its attainment

¹ The locations of these violations relative to the Southwestern High School (SWHS) monitor triggered the Detroit nonattainment designation. The violating receptors surrounding the Carmeuse Lime facility were approximately two miles to the southwest of the SWHS monitor, and the violating receptors near Zug Island were approximately one mile south of the SWHS monitor. Although the monitor has now been showing attainment for several years, EPA's base case modeling continues to show NAAQS violations.

demonstration emission limitations for Carmeuse Lime, DTE Trenton Channel, DTE River Rouge, and U.S. Steel. Michigan submitted for approval into the SIP revised construction permits for Carmeuse Lime, DTE Trenton Channel, and DTE River Rouge.

For U.S. Steel, Michigan imposed emission limits it had concluded were necessary to bring the Detroit area into attainment via Michigan Administrative Code (MAC) 336.1430 ("Rule 430"). Michigan submitted Rule 430 to EPA as an enforceable limitation element for approval as part of its SO₂ plan.

Subsequently, U.S. Steel challenged the legality of Rule 430 under state law in the Michigan Court of Claims, which invalidated Rule 430 on October 4, 2017. *United States Steel Corp. v. Dept. of Environmental Quality*, No. 16-000202-MZ, 2017 WL 5974195 (Mich. Ct. Cl. Oct. 4, 2017). Because the State's submitted attainment demonstration relied on a limitation that is now unenforceable and, therefore, could not meet the requirements of CAA sections 110 and 172, EPA disapproved the Detroit SO₂ plan on March 19, 2021.

Although the attainment plan as a whole was not approvable, EPA approved two of these three permits - for Carmeuse Lime and DTE Trenton Channel - in its March 19, 2021 action as SIP strengthening, which is appropriate for limits that improve air quality but do not meet a specific CAA requirement. This made the two permits permanent and federally enforceable by EPA and the State of Michigan.

For Carmeuse Lime, on March 18, 2016, the State issued Permit to Install 193-14A, which required the construction of and venting of emissions through a new stack. The permit also established a more stringent, permanent, and enforceable SO₂ limit.² The State's modeling indicated that the violation caused by Carmeuse Lime was resolved by this modification, which is well below the creditable stack height of 65 meters as determined based on EPA's regulatory definition of "good engineering practice (GEP)" per 40 CFR 51.100(ii)(1). Because this enforceable emission limit reduces ground-level impacts, EPA approved it as SIP strengthening in the March 19, 2021 action. Carmeuse Lime has constructed the new stack and has shown compliance with its limit since October 1, 2018. As further discussed below, EPA has now evaluated the Carmeuse Lime permit as part of the Detroit area attainment plan and is proposing to include it as part of the FIP analysis.

Similarly, EPA approved the DTE Trenton Channel permit (Permit to Install 125-11C).³ EPA's FIP modeling analysis demonstrates that attainment at the previously modeled violating receptors can be achieved when the emission limits in the DTE Trenton Channel Permit⁴ are analyzed together with other control

² The Carmeuse Lime permit (Permit to Install 193-14A) requires the construction of and venting of emissions through a new stack with a minimum height above ground of 120 feet (36.6 meters). The permit also establishes an enforceable hourly SO₂ limit of 470 lbs/hr. Compliance must be shown by calculating and recording hourly SO₂ emissions using the most current emission factor and the hourly limestone feed rate data.

³ Issued April 29, 2016

⁴ The DTE Trenton Channel permit (Permit to Install 125-11C) establishes an enforceable SO₂ limit of 5,907 lbs/hr on a 30-day average basis. Compliance must be shown using a continuous emissions monitoring system (CEMS), which was required to be operational by January 1, 2017.

strategies included in the FIP. DTE Trenton Channel has been in compliance with its limit since its compliance date of January 1, 2017. In addition to the Carmeuse Lime permit, EPA is also proposing to include the DTE Trenton Channel permit as part of the FIP analysis.

Since Michigan's 2016 submittal, all DTE River Rouge units with SO₂ emissions have been shut down and the permit has been modified to reflect this.⁵ Consequently, the shutdown of the coal-fired boilers at DTE River Rouge is permanent and enforceable, and no restart of their operations can occur without undergoing NSR, including requirements to assess the impacts of future operations on maintaining NAAQS attainment. Likewise, any such restart would require a revision to the source's title V permit, subject to EPA review and possible objection if a permit revision would not ensure compliance with all applicable CAA requirements. For these reasons, it is reasonable for the attainment modeling to treat DTE River Rouge's SO₂ emissions as zero.

For EES Coke, Cleveland-Cliffs Steel Corporation, and DIG, SO₂ emission limits are included in their current operating permits (Permit to Install 51-08C, November 21, 2014, Permit MI-ROP-A8640-2016a, modified January 19, 2017, and Permit MI-ROP-N6631-2012a, modified June 28, 2016, respectively). EPA has included these limits and compliance mechanisms in the FIP regulatory text to ensure permanence and enforceability, with

⁵ Permit MI-ROP-B2810-2012c, modified on August 18, 2021

one exception. In addition to an existing daily average limit of 420 lbs/hr for DIG Boilers 1, 2 and 3 (combined), EPA is proposing an additional daily average limit of 840 lbs/hr for DIG Boilers 1, 2, and 3 and Flares 1 and 2 (combined). Both limits will apply at all times. This additional limit is not reflective of any new control strategies, but rather is ensuring that maximum operating conditions are protective of the NAAQS.

The existing control strategies specified in this section are reflected in current clean monitoring data from both monitors in the Detroit area. However, EPA's modeling analysis shows that to model attainment throughout all the receptors in the Detroit area, new emission limits at U.S. Steel are needed, which are discussed in section IV.B below and included in the FIP regulatory language.

B. New Rules

The proposed FIP regulatory language includes new rules for U.S. Steel, which are described in the remainder of this subsection. Additional details on compliance, recordkeeping, and reporting requirements are included in the FIP proposed regulatory language found in the proposed amendment to 40 CFR part 52 § 52.1189 in this action. The emission limits and other requirements in these rules are reflected in EPA's modeling.

1. U.S. Steel Boilerhouse 2

EPA is proposing two separate limits for Boilerhouse 2 based on two different operating scenarios. When Boilerhouse 2 is the only unit operating at the U.S. Steel facility, EPA is

proposing an emission limit of 750.00 lbs/hr for U.S. Steel Boilerhouse 2. When any unit identified in section IV.B.2 of this action is operating in addition to Boilerhouse 2 at the U.S. Steel facility, EPA is proposing an emission limit of 81.00 lbs/hr for U.S. Steel Boilerhouse 2. These limits would be effective two years after the effective date of the FIP, corresponding with the construction compliance schedule described below in this section. To determine compliance with these limits, the owner or operator would be required to install and continuously operate an SO₂ continuous emission monitoring system (CEMS) not later than two years after the effective date of the FIP to measure SO₂ emissions from Boilerhouse 2 in conformance with 40 CFR part 60 appendix F procedure 1.

Additionally, EPA is proposing to require that the owner or operator of Boilerhouse 2 combine all five stacks at U.S. Steel Boilerhouse 2 into a single larger stack, with a minimum height of 170 feet (51.8 meters), which is well below the maximum creditable stack height of 65 meters as determined based on EPA's regulatory definition of de minimis GEP stack height per 40 CFR 51.100(ii)(1). This stack reconfiguration is not considered a dispersion technique under 40 CFR 51.100(hh) as the allowable SO₂ emissions for the entire U.S. Steel facility do not exceed 5,000 tons per year.⁶ See 40 CFR 51.100(hh)(2)(v). The

⁶ When Boilerhouse 2 is the only unit operating at the U.S. Steel facility, EPA is proposing an emission limit of 750.00 lbs/hr for U.S. Steel Boilerhouse 2. Assuming maximum operation for every hour in a year, 750.00 lbs/hr equates to 3,285 tons per year. When any unit identified in section IV.B.2 of this action is operating in addition to Boilerhouse 2 at the U.S.

owner or operator would be required to submit a construction permit application for the new stack to the State of Michigan no later than 90 days after the effective date of the FIP and would be required to commence stack operation not later than two years after the effective date of the FIP. This compliance schedule allows time for the State of Michigan to issue the permit, the owner or operator to send out requests for proposal and award a construction contract and procure materials, and for completion of construction.

2. Other U.S. Steel Units

The proposed FIP SO₂ emission limits for the remaining U.S. Steel units are shown below in Table 1. These limits would become effective on the effective date of the FIP. Compliance with these limits would be determined hourly by calculating SO₂ emissions using all raw material sulfur charged into each affected emission unit and assuming 100 percent conversion of total sulfur to SO₂. For all units except Boilerhouse 2 and any idled units, the owner or operator of the units would be required to implement a compliance assurance plan (CAP) that specifies the calculation methodology, procedures, and inputs used in these calculations and would be required to submit the plan to EPA within 30 days after the effective date of the FIP. The owner or operator would be required to submit a list of

Steel facility, EPA is proposing an emission limit of 81.00 lbs/hr for U.S. Steel Boilerhouse 2. The combined total of all emission limits for U.S. Steel (Boilerhouse 2 plus all units identified in section IV.B.2) in this scenario is 341.73 lbs/hr. Assuming maximum operation for every hour in a year, 341.73 lbs/hr equates to 1,497 tons per year. Therefore, in both scenarios, the total U.S. Steel allowable emissions do not exceed 5,000 tons per year.

idled units within 30 days of the effective date of the FIP and would be required to submit a CAP for any idled units before resuming operation.

Table 1 - Proposed Emission Limits for U.S. Steel Units*

Unit	Proposed SO ₂ Emission Limit (lbs/hr)
Boilerhouse 1 (all stacks combined)	55.00
Hot Strip Mill - Slab Reheat Furnace 1	0.31
Hot Strip Mill - Slab Reheat Furnace 2	0.31
Hot Strip Mill - Slab Reheat Furnace 3	0.31
Hot Strip Mill - Slab Reheat Furnace 4	0.31
Hot Strip Mill - Slab Reheat Furnace 5	0.31
No. 2 Baghouse	3.30
Main Plant Boiler No. 8	0.07
Main Plant Boiler No. 9	0.07
A1 Blast Furnace	0.00
B2 Blast Furnace	40.18
D4 Blast Furnace	40.18
A/B Blast Furnace Flares	60.19
D Furnace Flare	60.19

* This table does not include proposed limits for Boilerhouse 2, which are described in section IV.B.1 of this action.

V. Longer-Term Averaging.

EPA's April 2014 guidance recommends that the emission limits be expressed as short-term average limits (e.g., addressing emissions averaged over one or three hours), but also describes the option to utilize emission limits with longer averaging times of up to 30 days so long as various suggested criteria are met. See 2014 guidance, pp. 22 to 39. The guidance recommends that, should longer-term averaging times be used, the longer-term average limit should be set at an adjusted

level that reflects a stringency comparable to the 1-hour average limit at the critical emission value shown to provide for attainment that the plan otherwise would have set.

The April 2014 guidance provides an extensive discussion of EPA's rationale for concluding that appropriately set comparably stringent limitations based on averaging times as long as 30 days can be found to provide for attainment of the 2010 SO₂ NAAQS. In evaluating this option, EPA considered the nature of the standard, conducted detailed analyses of the impact of use of 30-day average limits on the prospects for attaining the standard, and carefully reviewed how best to achieve an appropriate balance among the various factors that warrant consideration in judging whether a nonattainment area plan provides for attainment. *Id.* at pp. 22 to 39. *See also id.* at appendices B, C, and D.

As specified in 40 CFR 50.17(b), the 1-hour primary SO₂ NAAQS is met at an ambient air quality monitoring site when the 3-year average of the annual 99th percentile of daily maximum 1-hour concentrations is less than or equal to 75 ppb. In a year with 365 days of valid monitoring data, the 99th percentile would be the fourth highest daily maximum 1-hour value. The 2010 SO₂ NAAQS, including this form of determining compliance with the standard, was upheld by the U.S. Court of Appeals for the District of Columbia Circuit in *Nat'l Env't'l Dev. Ass'n's Clean Air Project v. EPA*, 686 F.3d 803 (D.C. Cir. 2012). Because the standard has this form, a single hourly exceedance of the 75 ppb

level does not create a violation of the standard. Instead, at issue is whether a source operating in compliance with a properly set longer-term average could cause exceedances, and if so, the resulting frequency and magnitude of such exceedances, and in particular whether EPA can have reasonable confidence that a properly set longer-term average limit will provide that the 3-year average of annual fourth highest daily maximum hourly values will be at or below 75 ppb. A synopsis of how EPA judges whether such plans "provide for attainment," based on modeling of projected allowable emissions and in consideration of the form of the NAAQS for determining attainment at monitoring sites follows.

For SO₂ plans based on 1-hour emission limits, the standard approach is to conduct modeling using fixed emission rates. The maximum emission rate that would be modeled to result in attainment (*i.e.*, in an "average year"⁷ which shows three days with a maximum hourly level exceeding 75 ppb) is labeled the "critical emission value." The modeling process for identifying this critical emissions value inherently considers the numerous variables that affect ambient concentrations of SO₂, such as meteorological data, background concentrations, and topography. In the standard approach, the state would then provide for attainment by setting a continuously applicable 1-hour emission

⁷ An "average year" is used to mean a year with average air quality. While 40 CFR 50 appendix T provides for averaging three years of 99th percentile daily maximum values (*e.g.*, the fourth highest maximum daily concentration in a year with 365 days with valid data), this discussion and an example below use a single "average year" in order to simplify the illustration of relevant principles.

limit at this critical emission value.

EPA recognizes that some sources have highly variable emissions, for example due to variations in fuel sulfur content and operating rate, that can make it extremely difficult, even with a well-designed control strategy, to ensure in practice that emissions for any given hour do not exceed the critical emission value. EPA also acknowledges the concern that longer-term emission limits can allow short periods with emissions above the critical emissions value, which, if coincident with meteorological conditions conducive to high SO₂ concentrations, could in turn create the possibility of a NAAQS exceedance occurring on a day when an exceedance would not have occurred if emissions were continuously controlled at the level corresponding to the critical emissions value. However, for several reasons, EPA believes that the approach recommended in its guidance document suitably addresses this concern. First, from a practical perspective, EPA expects the actual emission profile of a source subject to an appropriately set longer-term average limit to be similar to the emission profile of a source subject to an analogous 1-hour average limit. EPA expects this similarity because it has recommended that the longer-term average limit be set at a level that is comparably stringent to the otherwise applicable 1-hour limit (reflecting a downward adjustment from the critical emissions value such that the longer-term limit has a lower permissible emission rate than that of the critical emissions value) and that takes the

source's emissions profile into account. As a result, EPA expects either form of emission limit to yield comparable air quality.

Second, from a more theoretical perspective, EPA has compared the likely air quality with a source having maximum allowable emissions under an appropriately set longer-term limit, as compared to the likely air quality with the source having maximum allowable emissions under the comparable 1-hour limit. In this comparison, in the 1-hour average limit scenario, the source is presumed at all times to emit at the critical emission level, and in the longer-term average limit scenario, the source is presumed occasionally to emit more than the critical emissions value but on average, and presumably at most times, to emit well below the critical emissions value. In an "average year," compliance with the 1-hour limit is expected to result in three exceedance days (*i.e.*, three days with hourly values above 75 ppb) and a fourth day with a maximum hourly value at 75 ppb. By comparison, with the source complying with a longer-term limit, it is possible that additional exceedances would occur that would not occur in the 1-hour limit scenario (if emissions exceed the critical emissions value at times when meteorology is conducive to poor air quality). However, this comparison must also factor in the likelihood that exceedances that would be expected in the 1-hour limit scenario would not occur in the longer-term limit scenario. This result arises because the longer-term limit requires lower emissions most of

the time (because the limit is set well below the critical emissions value), so a source complying with an appropriately set longer-term limit is likely to have lower emissions at critical times than would be the case if the source were emitting as allowed with a 1-hour limit.

As a hypothetical example to illustrate these points, suppose a source always emits 1000 pounds of SO₂ per hour (lbs/hr), which results in air quality at the level of the NAAQS (*i.e.*, results in a design value of 75 ppb). Suppose further that in an "average year," these emissions cause the 5 highest maximum daily average 1-hour concentrations to be 100 ppb, 90 ppb, 80 ppb, 75 ppb, and 70 ppb. Then suppose that the source becomes subject to a 30-day average emission limit of 700 lbs/hr. It is theoretically possible for a source meeting this limit to have emissions that occasionally exceed 1000 lbs/hr, but with a typical emissions profile emissions would much more commonly be between 600 and 800 lbs/hr. In this simplified example, assume a zero background concentration, which allows one to assume a linear relationship between emissions and air quality. (A nonzero background concentration would make the mathematics more difficult but would give similar results.) Air quality will depend on what emissions happen on what critical hours, but suppose that emissions at the relevant times on these 5 days are 800 lbs/hr, 1100 lbs/hr, 500 lbs/hr, 900 lbs/hr, and 1200 lbs/hr, respectively. (This is a conservative example because the average of these emissions, 900 lbs/hr, is well over

the 30-day average emission limit.) These emissions would result in daily maximum 1-hour concentrations of 80 ppb, 99 ppb, 40 ppb, 67.5 ppb, and 84 ppb. In this example, the fifth day would have an exceedance that would not otherwise have occurred (84 ppb under the 30-day average limit compared to 70 ppb under the 1-hour limit). However, the third day would not have an exceedance that otherwise would have occurred (40 ppb under the 30-day average limit compared to 80 ppb under the 1-hour limit). The fourth day would have been below, rather than at, 75 ppb (67.5 ppb under the 30-day average limit compared to 75 ppb under the 1-hour limit). In this example, the fourth highest maximum daily concentration under the 30-day average would be 67.5 ppb.

This simplified example illustrates the findings of a more complicated statistical analysis that EPA conducted using a range of scenarios incorporating actual plant data. As described in appendix B of EPA's April 2014 SO₂ nonattainment planning guidance, EPA found that the requirement for lower average emissions is likely to yield as good air quality as is required with a comparably stringent 1-hour limit. Based on analyses described in appendix B of its 2014 guidance and similar subsequent work, EPA expects that emission profiles with maximum allowable emissions under an appropriately set comparably stringent 30-day average limit are likely to have the net effect of no more exceedances and air quality as good as that of an emission profile with maximum allowable emissions

under a 1-hour emission limit at the critical emission value.⁸ This result provides a compelling policy rationale for allowing the use of a longer averaging period, in appropriate circumstances where the facts indicate this result can be expected to occur.

The question then becomes whether this approach, which is likely to produce a lower number of overall exceedances even though it may produce some unexpected exceedances above the critical emission value, meets the requirement in section 110(a)(1) and 172(c)(1) for SIPs to “provide for attainment” of the NAAQS. For SO₂, as for other pollutants, it is generally impossible to design a nonattainment plan in the present that will guarantee that attainment will occur in the future. A variety of factors can cause a well-designed attainment plan to fail and unexpectedly not result in attainment, for example if meteorology occurs that is more conducive to poor air quality than was anticipated in the plan. Therefore, in determining whether a plan meets the requirement to provide for attainment, EPA’s task is commonly to judge not whether the plan provides absolute certainty that attainment will in fact occur, but

⁸ See also further analyses described in rulemaking on the SO₂ nonattainment plan for Southwest Indiana. In response to comments expressing concern that the emission profiles analyzed for appendix B represented actual rather than allowable emissions, EPA conducted additional work formulating sample allowable emission profiles and analyzing the resulting air quality impact. This analysis provided further support for the conclusion that an appropriately set longer-term average emission limit in appropriate circumstances can suitably provide for attainment. The rulemaking describing these further analyses was published on August 17, 2020, at 85 FR 49967, available at <https://www.govinfo.gov/content/pkg/FR-2020-08-17/pdf/2020-16044.pdf>. A more detailed description of these analyses is available in the docket for that action, specifically at <https://www.regulations.gov/document?D=EPA-R05-OAR-2015-0700-0023>.

rather whether the plan provides an adequate level of confidence of prospective NAAQS attainment. From this perspective, in evaluating use of a 30-day average limit, EPA must weigh the likely net effect on air quality. Such an evaluation must consider the risk that occasions with meteorology conducive to high concentrations will have elevated emissions leading to exceedances that would not otherwise have occurred, and must also weigh the likelihood that the requirement for lower emissions on average will result in days not having exceedances that would have been expected with emissions at the critical emissions value. Additional policy considerations, such as accommodating real world emissions variability without significant risk of violations, are also appropriate factors for EPA to weigh in judging whether a plan provides a reasonable degree of confidence that the plan will lead to attainment. Based on these considerations, EPA believes that a continuously enforceable limit averaged over as long as 30 days, if determined in accordance with EPA's guidance, can reasonably be considered to provide for attainment of the 2010 SO₂ NAAQS.

The April 2014 guidance offers specific recommendations for determining an appropriate longer-term average limit. The recommended method starts with determination of the 1-hour emission limit that would provide for attainment (*i.e.*, the critical emissions value), then applies an adjustment factor to determine the (lower) level of the longer-term average emission limit that would be estimated to have a stringency comparable to

the 1-hour emission limit. This method uses a database of continuous emission data reflecting the type of control that the source will be using to comply with the nonattainment area plan emission limits, which (if compliance requires new controls) may require use of an emission database from another source. The recommended method involves using these data to compute a complete set of emission averages, computed according to the averaging time and averaging procedures of the prospective emission limitation. In this recommended method, the ratio of the 99th percentile among these long-term averages to the 99th percentile of the 1-hour values represents an adjustment factor that may be multiplied by the candidate 1-hour emission limit to determine a longer-term average emission limit that may be considered comparably stringent.⁹ The guidance also addresses a variety of related topics, such as the potential utility of setting supplemental emission limits, such as mass-based limits, to reduce the likelihood and/or magnitude of elevated emission levels that might occur under the longer-term emission rate limit.

VI. Modeling.

The following discussion is a summary of various features of the modeling that EPA used in developing the proposed FIP. The modeling analysis conducted by EPA to support the FIP was adapted from the modeling analysis conducted by Michigan to

⁹ For example, if the critical emission value is 1000 lbs/hr of SO₂, and a suitable adjustment factor is determined to be 70 percent, the recommended longer term average limit would be 700 lbs/hr.

support Michigan's 2016 nonattainment plan. A more in-depth discussion of the modeling, including an explanation of the differences between EPA's and Michigan's modeling analyses, is presented in a technical support document (TSD) included in the docket for this action.

A. Model Selection

EPA used AERMOD, the preferred model for this application. EPA used version 21112 of this model, which is the most current version. In its 2016 submittal, Michigan had instead used version 15181, which was the current version at that time.¹⁰

EPA's receptor grid and modeling domain for the Detroit area followed the recommended approaches from EPA's *Guideline on Air Quality Models* (40 CFR part 51, appendix W). A uniform Cartesian receptor grid was used with receptor spacing of 100 meters throughout the modeled domain, which was consistent with the grid Michigan used in its 2016 submittal.

Although EPA's *Guideline on Air Quality Models* recommends that areas such as Detroit should be modeled using urban dispersion coefficients, Michigan found in its 2016 modeling analysis that using urban dispersion coefficients caused the model to overpredict monitored concentrations by 2-3 times due to overpredictions with tall stacks.¹¹ As discussed further in the TSD, EPA agrees with Michigan's use of rural

¹⁰ AERMOD version 21112 resolved errors and bugs that were found in version 15181 and introduced some new modeling options. For more information on the differences between AERMOD versions, see <https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models>.

¹¹ More information on dispersion coefficients can be found in the TSD for this action.

dispersion coefficients and therefore used rural dispersion options for tall stacks at EES Coke, DTE Trenton Channel, and DTE Monroe, and urban dispersion option for the remaining modeled sources.

B. Meteorological Data

EPA used the Detroit Metropolitan Wayne County Airport's (KDTW) meteorological surface data and the White Lake (DTX) meteorological upper air data for the years 2016-2020 for modeling the Detroit area. The surface station is located less than 22 kilometers from the SO₂ sources in the Detroit area and is located in similar terrain.

C. Emissions Data

EPA included all point sources within 50 kilometers of Detroit in its modeling analysis. These sources included U.S. Steel (Ecorse and Zug Island), EES Coke, DTE Trenton Channel, Carmeuse Lime, DTE Monroe, Cleveland-Cliffs Steel Corporation, DIG, and Marathon Refinery. DTE River Rouge was not included in the modeling analysis as all the units with SO₂ emissions have been permanently and enforceably shut down. EPA found that no other sources outside the nonattainment area were close enough to cause significant concentration gradients.

D. Emission Limits

An important aspect of an attainment plan is that the emission limits that provide for attainment be quantifiable, fully enforceable, replicable, and accountable. See General Preamble at 13567-68. The FIP analysis includes limits for U.S.

Steel, EES Coke, Cleveland-Cliffs Steel Corporation, DIG, Carmeuse Lime, and DTE Trenton Channel. The limit for Trenton Channel is expressed as a 30-day average limit, and the limits for Cleveland-Cliffs Steel Corporation and DIG are expressed as daily average limits. Therefore, part of the Detroit FIP must address the use of these longer-term average limits, both with respect to the general suitability of using such limits for demonstrating attainment and with respect to whether the particular limits included in the plan have been suitably demonstrated to provide for attainment. The first subsection that follows addresses the enforceability of the limits in the plan, and the second subsection that follows addresses in particular the 30-day and daily average limits.

1. Enforceability

In preparing its 2016 plan, Michigan adopted Permit to Install 193-14A, governing the Carmeuse Lime SO₂ emissions, and Permit to Install 125-11C, governing the DTE Trenton Channel SO₂ emissions. These construction permit revisions were adopted by Michigan following established, appropriate public review procedures. The Carmeuse Lime permit required the construction of and venting of emissions through a new stack with a minimum height above ground of 120 feet (36.6 meters). The permit also established a permanent and enforceable SO₂ limit of 470 lbs/hr. EPA's modeling indicates that the modeling violation caused by Carmeuse has been resolved by this modification, which is well below the maximum creditable stack height of 65 meters as

determined based on EPA's regulatory definition of de minimis GEP stack height per 40 CFR 51.100(ii)(1). The DTE Trenton Channel permit established an enforceable SO₂ limit of 5,907 lbs/hr on a 30-day rolling average basis. EPA modeling demonstrates that attainment at violating receptors can be achieved when the emission limits in the DTE Trenton Channel Permit are analyzed together with the shutdown of the River Rouge facility. In accordance with EPA policy, the 30-day average limit is set at a lower level than the emission rate used in the attainment demonstration; the relationship between these two values is discussed in more detail in the following section. The permit compliance dates were October 1, 2018 for Carmeuse Lime and January 1, 2017 for DTE Trenton Channel. Both of these permits were incorporated into Michigan's SIP as part of EPA's March 19, 2021 action, and both facilities have been complying with their limits since their compliance dates.

Michigan adopted a revision to the renewable operating permit governing DTE River Rouge emissions, Permit MI-ROP-B2810-2012c, on August 18, 2021, that reflects the shutdown of the coal-fired boilers. As explained in section IV.A above, the shutdown of the coal-fired boilers at DTE River Rouge is permanent and enforceable.

Emission limits and associated requirements for U.S. Steel, EES Coke, Cleveland-Cliffs Steel Corporation, and DIG will be made permanent and enforceable by the inclusion in the FIP regulatory language. The codification section of the FIP

includes new emission limits and associated requirements for the U.S. Steel units and the DIG Boilers 1, 2, and 3 and Flares 1 and 2 flexible group, as well as emission limits and compliance mechanisms for EES Coke, Cleveland-Cliffs Steel Corporation, and DIG (with the one aforementioned exception) that are also required by the sources' existing operating permits.

As described further in the TSD, EPA modeled the maximum uncontrolled emission rate for any unit in the nonattainment area that does not have an SO₂ emission limit already incorporated into the Michigan SIP or included in the codification section of the FIP.

2. Longer-Term Average Limits

The following subsection addresses the 30-day average limit for DTE Trenton Channel and the daily average limits for Cleveland-Cliffs Steel Corporation and DIG. As previously discussed in detail in Section V of this notice, EPA supports adoption of longer-term average limits, as EPA's guidance recommends modeling of a 1-hour "critical emissions value" (CEV) and application of a properly derived adjustment factor demonstrates that the longer-term limit is comparably stringent to the modeled 1-hour CEV that would otherwise be reflected in the emission limit.

Michigan's 2016 plan included permits with 30-day average emission limits for DTE River Rouge and Trenton Channel that, when modeled using comparably stringent 1-hour emission rates, demonstrated attainment of the SO₂ NAAQS in the areas that had

previously shown violations caused by the DTE facilities. Both DTE River Rouge and Trenton Channel requested limits expressed as a 30-day average in order to have longer-term limits that allow for ordinary fluctuations in emissions but are comparably stringent to hourly limits and still provide for attainment. Although Michigan's 2016 plan included a 30-day average emission limit for DTE River Rouge, EPA is not evaluating a longer-term average limit for DTE River Rouge as the facility has since been shut down.

DTE submitted to Michigan an analysis supporting the DTE Trenton Channel Unit 9A 30-day average emission limits using CEMS heat input data, SO₂ emissions factors, and coal blend projections. DTE calculated an adjustment factor of 0.87 for the DTE Trenton Channel unit.

However, as EPA was reviewing Michigan's 2016 submittal, EPA found that DTE's adjustment factor calculation did not account for fuel variability, which increased significantly after 2016 when the Mercury and Air Toxics Standards (MATS) took effect. Therefore, EPA completed its own adjustment factor analysis following the 2014 SO₂ guidance using 2015-2019 DTE Trenton Channel operating data, which was the most recent data at the time of the analysis and included DTE Trenton Channel's transition to compliance with the MATS. EPA calculated an adjustment factor of 0.771.

For DTE Trenton Channel, EPA used its calculated adjustment factor of 0.771 and the permitted 30-day-average emission limit

of 5,907 lbs/hr¹² to calculate the comparably stringent 1-hour emission rate for DTE Trenton Channel of 7,661 lbs/hr. EPA used the comparably stringent 1-hour emission rate in its modeling analysis to confirm that the DTE Trenton Channel limit would result in attainment. The 1-hour emission rate that EPA used for its modeling analysis (7,661 lbs/hr) is more stringent than the CEV that would otherwise have been necessary to provide for attainment, as the CEV represents the maximum 1-hour emission rate that would result in attainment when modeled, and the maximum concentration that EPA modeled was below the NAAQS.¹³

Although EPA used a more conservative adjustment factor in its FIP modeling analysis than Michigan used in its 2016 submittal, EPA used the same permitted 30-day-average emission limit of 5,907 lbs/hr. Therefore, the comparably stringent 1-hour emission rate that EPA used was higher than the rate that Michigan used. However, EPA's modeling analysis shows that this higher 1-hour emission rate for DTE Trenton Channel still provides for attainment, largely due to EPA's exclusion of DTE River Rouge emissions in its analysis.

For Cleveland-Cliffs Steel Corporation and DIG, EPA does not have a sufficient historical record of CEMS data to be able to evaluate source-specific emissions variability for purposes of determining source-specific factors by which to calculate the comparably stringent 1-hour limits from the sources' daily

¹² The DTE Trenton Channel Unit 9A 30-day average SO₂ emissions are calculated on a rolling basis as determined at the end of every calendar day.

¹³ See section VI.G of this action for a summary of EPA's modeling results.

average limits. Instead, EPA determined the comparably stringent 1-hour emission rates by applying one of the national average adjustment factors listed in appendix D of EPA's 2014 SO₂ guidance. For Cleveland-Cliffs Steel Corporation, EPA divided the furnace stove daily average limits by an adjustment factor of 0.89, reflecting the national average adjustment factor that EPA found among facilities with wet scrubbers, and the furnace baghouse daily average limits by an adjustment factor of 0.93, reflecting the national average adjustment factor that EPA found among facilities without control equipment. For DIG, EPA divided the daily average limits by an adjustment factor of 0.93, reflecting the national average adjustment factor that EPA found among facilities without control equipment. The Cleveland-Cliffs Steel Corporation and DIG daily average limits and comparably stringent 1-hour emission rates are shown below in Table 2.

Table 2 - Cleveland-Cliffs Steel Corporation and DIG Daily Average Limits and Comparably Stringent 1-Hour Emission Rates

Unit(s)	Daily Average Emission Limit	Adjustment Factor	Modeled Comparably Stringent 1-Hour Emission Rate (lbs/hr)
Cleveland-Cliffs Steel Corporation*			
"B" Blast Furnace Baghouse and Stove Stacks (combined)	77.8 lbs/hr	0.93 for Furnace Baghouse and 0.89 for Furnace Stove	85.91 lbs/hr (modeled as 33.46 lbs/hr for the furnace baghouse and 52.45 lbs/hr for the furnace stove)
"C" Blast Furnace Baghouse and Stove Stacks	271.4 lbs/hr	0.93 for Furnace Stove and 0.89 for Furnace	299.70 lbs/hr (modeled as 116.73 lbs/hr for the furnace

(combined)		Baghouse	baghouse and 182.97 lbs/hr for the furnace stove)
DIG			
Boilers 1, 2, and 3 (combined)	420 lbs/hr	0.93	451.62 lbs/hr (modeled as 150.54 lbs/hr per boiler)
Boilers 1, 2, and 3, and Flares 1 and 2 (combined)	840 lbs/hr	0.93	903.24 lbs/hr (modeled as 150.54 lbs/hr per boiler and 451.62 lbs/hr for Flare 2, as Flare 1 is no longer operational)

* Note: Modeled emissions were split between the furnace stoves and baghouses at a 60:40 ratio, which was the most conservative option based on capacity data over the last several years.

EPA believes that the 30-day-average limit for DTE Trenton Channel and the daily average limits for Cleveland-Cliffs Steel Corporation and DIG provide suitable alternatives to establishing 1-hour average emission limits for these sources. EPA proposes to find that the adjustment factors of 0.771 for DTE Trenton Channel, 0.89 for Cleveland-Cliffs Steel Corporation furnace stoves, 0.93 for Cleveland-Cliffs Steel Corporation furnace baghouses, and 0.93 for DIG are appropriate. When the longer-term limits were divided by these adjustment factors, they resulted in modeled comparably stringent 1-hour emission rates that are equal to or more stringent than the 1-hour average emission rates represented by the CEV that would otherwise have been necessary to provide for attainment. While the longer-term average limits allow occasions in which emissions may be higher than the level that would be allowed with the 1-hour limits, the longer-term average limits

compensate by requiring average emissions to be lower than the level that would otherwise have been required by a 1-hour average limit that would be represented by the CEV. As described above and explained in more detail in EPA's April 2014 guidance for SO₂ nonattainment plans, EPA finds that appropriately set longer-term average limits provide a reasonable basis by which nonattainment plans will provide for attainment.

E. Background Concentrations

EPA determined background concentrations for the Detroit area using monitoring data from the Allen Park monitor (AQS ID 26-163-0001), which is approximately 17 kilometers southwest of Detroit. The background concentration values that EPA used varied by season and hour-of-day and ranged from 0.1 to 11.9 ppb.

F. Comments Made During Previous EPA Rulemakings

During the comment period for EPA's March 19, 2021, partial approval and partial disapproval of Michigan's 2016 plan for the Detroit area, EPA received 21 supportive comments, nine comments not directly relevant to the rulemaking, and a joint comment letter from Sierra Club and Earthjustice that was partially adverse.

Part of the joint letter from Sierra Club and Earthjustice included information about alleged flaws in the State's modeling report. While EPA was not evaluating whether Michigan's modeling report supported attainment of the Detroit area in its

March 19, 2021 action, EPA believes these comments are relevant to EPA's modeling analysis for the FIP. Therefore, EPA has considered the comments as part of the FIP development. The remainder of this section summarizes the portion of the comment letter that addressed the commenters' modeling concerns as well as EPA's proposed response to these comments.

First, the commenters expressed concerns that the State did not use an appropriate background concentration in its modeling analysis. Michigan used hourly SO₂ data from the Allen Park monitor for the years 2012-2014 in its 2016 analysis and excluded hourly concentrations associated with wind directions between and including 40 degrees and 205 degrees using meteorological data from Allen Park. In the modeling analysis for the FIP, EPA used a similar method to Michigan's to calculate the background concentration. EPA used hourly SO₂ data from 2018-2020 at the Allen Park monitor, along with Allen Park wind data to generate Season/Hour-of-Day concentrations. Concentrations associated with wind directions between and including 40 degrees and 205 degrees were excluded due to SO₂ concentrations at the Allen Park monitor being influenced by sources explicitly included in the modeling analysis. This includes U.S. Steel, DTE River Rouge, EES Coke, Carmeuse Lime, Marathon, Cleveland-Cliffs Steel Corporation and DIG to the northeast and DTE Trenton Channel and DTE Monroe to the south and southwest. Wind direction checks were made for the preceding hour as well. Only days with eight hours or more of

valid observations with wind directions not between and including 40 and 205 degrees were included, and the second highest concentration for each season and hour-of-day combination was selected. EPA's August 2016 "SO₂ NAAQS Designations Modeling Technical Assistance Document" (Modeling TAD) discusses that the use of hour-of-day and season background concentrations based on the 99th percentile 1-hour SO₂ concentrations over three years is appropriate for use in modeling against the 1-hour SO₂ NAAQS. The Modeling TAD states that "to calculate the 99th percentile concentration for a season and hour of day combination, the second highest concentration for that combination should be selected." The Modeling TAD also concurs that it is appropriate to exclude periods when the source(s) in question is/are expected to impact the monitored concentrations.

Second, the commenters stated that the state failed to adjust the 30-day average limits for DTE River Rouge and Trenton Channel to a level that was comparably stringent to a 1-hour limit that would achieve the SO₂ NAAQS. As described in section VI.D.2 above, EPA calculated a lower, more conservative adjustment factor than was used in Michigan's 2016 modeling analysis for the DTE River Rouge and Trenton Channel facilities. For DTE Trenton Channel, EPA used the lower adjustment factor and the 30-day average limit to calculate a higher comparably stringent 1-hour emission rate, which EPA used in its modeling analysis to show attainment, that is equal to or more stringent

than the 1-hour emission rate represented by the CEV. As all DTE River Rouge units emitting SO₂ have been permanently shut down, EPA removed the source from the modeling analysis and did not include the 30-day average SO₂ emission limits for DTE River Rouge in the FIP. EPA believes that the current adjustment factor being used in the FIP for DTE Trenton Channel is properly calculated and protective of the NAAQS.

Finally, the commenters recommended that EPA evaluate the State's emissions inventory and consider any significant SO₂ sources that were excluded in future modeling. Specifically, the commenters noted that three DIG natural gas combustion turbines, a DIG boiler co-firing natural gas and blast furnace gas, the DTE EES Coke Bypass Bleeder Flare, DTE EES Coke coke oven door leaks, and all Marathon Refinery flares were not included in Michigan's 2016 modeling analysis. EPA has evaluated these sources and they have been included in this modeling analysis for the FIP. The full list of sources included in the modeling, as well as the enforceability mechanism of each emission rate, is included in the TSD, which is included in the docket for this action.

G. Summary of Results

EPA evaluated two separate operating scenarios as part of its modeling analysis based on the separate limits proposed for U.S. Steel Boilerhouse 2. In both scenarios, the modeling for the Detroit area showed a maximum concentration of 73.6 ppb (192.7 micrograms per cubic meter (µg/m³

concentration resulted from modeling all units at maximum permitted levels based on the proposed emission limits included in the FIP or already incorporated into Michigan's SIP, or maximum uncontrolled emissions, newly adjusted comparably stringent 1-hour emission rates for DTE Trenton Channel, Cleveland-Cliffs Steel Corporation, and DIG, and the background concentration previously described. Therefore, EPA proposes to conclude that this FIP provides for attainment in the Detroit area.

VII. Other Plan Requirements.

A. Emissions Inventory

EPA approved the base year emissions inventory for the Detroit area in its March 19, 2021 action. Therefore, a review of the emissions inventory is not included in the FIP.

B. RACM/RACT and Enforceable Emission Limits

CAA section 172(c)(1) states that nonattainment plans shall provide for the implementation of all RACM as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of RACT) and shall provide for attainment of the national primary ambient air quality standards. For most criteria pollutants, RACT is control technology as needed to meet the NAAQS that is reasonably available considering technological and economic feasibility. However, the definition of RACT for SO₂ is, simply, that control technology which is necessary to achieve the NAAQS (see 40 CFR

51.100(o)). CAA section 172(c)(6) requires plans to include enforceable emissions limitations, and such other control measures as may be necessary or appropriate to provide for attainment of the NAAQS. In its March 19, 2021, rulemaking, EPA disapproved Michigan's 2016 attainment plan because it relied on Michigan Administrative Code (MAC) 336.1430 ("Rule 430"), which was invalidated and so was no longer an enforceable mechanism. Therefore, the plan could not be considered to provide an appropriate attainment demonstration, and it did not demonstrate RACM/RACT or meet the requirement for necessary emissions limitations or control measures. The FIP for attaining the 1-hour SO₂ NAAQS in the Detroit area is based on a variety of measures, including permits for Carmeuse Lime (effective date of October 1, 2018) and DTE Trenton Channel (effective date of January 1, 2017) that have been incorporated into Michigan's SIP, as well as the proposed regulatory language regarding U.S. Steel, EES Coke, Cleveland-Cliffs Steel Corporation, and DIG emissions that will be enforceable upon finalization of this action. The FIP requires compliance two years after the effective date of this action for U.S. Steel Boilerhouse 2 and the effective date of this action for all other units. The two-year compliance schedule for U.S. Steel Boilerhouse 2 allows 90 days for the owner or operator to submit a construction permit application to the State of Michigan, as well as time for the State of Michigan to issue the permit, the owner or operator to send out requests for proposal and award a construction contract

and procure materials, and for completion of construction. EPA proposes to determine that these measures suffice to provide for attainment and proposes to conclude that the FIP satisfies the requirement in sections 172(c)(1) and (6) to adopt and submit all RACM/RACT and emissions limitations or control measures as needed to attain the standards as expeditiously as practicable.

C. NSR

EPA affirmed in its March 19, 2021, action that NSR requirements had previously been met. Therefore, a review of the NSR requirements is not included in the FIP.

D. RFP

Section 171(1) of the CAA defines RFP as such annual incremental reductions in emissions of the relevant air pollutant as are required by part D or may reasonably be required by EPA for the purpose of ensuring attainment of the applicable NAAQS by the applicable attainment date. This definition is most appropriate for pollutants that are emitted by numerous and diverse sources, where the relationship between any individual source and the overall air quality is not explicitly quantified, and where the emission reductions necessary to attain the NAAQS are inventory-wide. (See EPA's April 2014 SO₂ nonattainment planning guidance, page 40.) For SO₂, there is usually a single "step" between pre-control nonattainment and post-control attainment. Therefore, for SO₂, with its discernible relationship between emissions and air quality, and significant and immediate air quality improvements,

RFP is best construed as adherence to an ambitious compliance schedule. (See General Preamble at 74 FR 13547 (April 16, 1992)).

In its March 19, 2021 rulemaking, EPA concluded that Michigan had not satisfied the requirement in section 172(c)(2) to provide for RFP toward attainment. Michigan's 2016 attainment plan did not demonstrate that the implementation of the control measures required under the plan were sufficient to provide for attainment of the NAAQS in the Detroit SO₂ nonattainment area, as some control measures were not enforceable due to the invalidation of Rule 430. Therefore, a compliance schedule to implement those controls was not sufficient to provide for RFP. The FIP regulatory language requires compliance by two years after the effective date of this action for U.S. Steel Boilerhouse 2 and the effective date of this action for all other units. As described in section IV.B above, the 2-year compliance schedule for U.S. Steel Boilerhouse 2 allows 90 days for the owner or operator to submit a construction permit application to the State of Michigan, as well as time for the State of Michigan to issue the permit, the owner or operator to send out requests for proposal and award a construction contract and procure materials, and for completion of construction. For DTE Trenton Channel and Carmeuse lime, compliance was required by January 1, 2017, and October 1, 2018, respectively. EPA concludes that this is an ambitious compliance schedule, as described in April 2014 guidance for SO₂

nonattainment plans, and that this plan therefore provides for RFP in accordance with the approach to RFP described in EPA's 2014 guidance.

E. Contingency Measures

EPA guidance describes special features of SO₂ planning that influence the suitability of alternative means of addressing the requirement in section 172(c)(9) for contingency measures for SO₂, such that in particular an appropriate means of satisfying this requirement is for the air agency to have a comprehensive enforcement program that identifies sources of violations of the SO₂ NAAQS and to undertake an aggressive follow-up for compliance and enforcement. (See EPA's April 2014 SO₂ nonattainment planning guidance, page 41.) The FIP provides for satisfying the contingency measure requirement in this manner, and EPA will be responsible for enforcement unless Michigan seeks to take delegation of the FIP. EPA's enforcement authority is contained in section 113(a) of the CAA. Options include: the issuance of an administrative order requiring compliance with the applicable implementation plan; the issuance of an administrative order requiring the payment of a civil penalty for past violations; and the commencement of a civil judicial action.

VIII. What Action is EPA Taking?

EPA is proposing a FIP for attaining the 2010 SO₂ NAAQS for the Detroit area and for meeting other nonattainment area planning requirements. In accordance with section 172 of the CAA, this FIP includes an attainment demonstration for the

Detroit area and addresses requirements for RFP, RACT/RACM, enforceable emission limitations and control measures, and contingency measures. EPA has previously concluded that Michigan has addressed the requirements for emissions inventories for the Detroit area and nonattainment area NSR.

The FIP is based on the Carmeuse Lime emission limits specified in Permit to Install 193-14A, the DTE Trenton Channel emission limits specified in Permit to Install 125-11C, and the U.S. Steel, EES Coke, Cleveland-Cliffs Steel Corporation, and DIG emission limits specified in the proposed regulatory language of this FIP. The Carmeuse Lime and DTE Trenton Channel permits have already been incorporated into Michigan's SIP, so EPA is not proposing to re-incorporate them into 40 CFR part 52 here.

EPA is taking public comments for forty-five days following the publication of this proposed action in the *Federal Register*. EPA will take all comments into consideration in the final action. If this FIP is finalized, it would satisfy EPA's duty to promulgate a FIP for the area under CAA section 110(c) that resulted from the previous finding of failure to submit. However, it would not affect the sanctions clock started under CAA section 179 resulting from EPA's partial disapproval of the prior SIP, which would be terminated by an EPA rulemaking approving a revised SIP.

IX. Statutory and Executive Order Reviews.

Additional information about these statutes and Executive Orders can be found at <https://www2.epa.gov/laws-regulations/laws-and-executive-orders>.

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review 13563

This action is exempt from review by the Office of Management and Budget (OMB). As discussed in detail in section B below, the proposed FIP regulatory language contains requirements only for four facilities. It is therefore not a rule of general applicability.

B. Paperwork Reduction Act

This proposed action does not impose an information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* Under the Paperwork Reduction Act, a "collection of information" is defined as a requirement for "answers to . . . identical reporting or recordkeeping requirements imposed on ten or more persons . . ." 44 U.S.C. 3502(3)(A). Because the proposed FIP applies to just four facilities, the Paperwork Reduction Act does not apply. See 5 CFR 1320(c).

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the

purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid Office of Management and Budget (OMB) control number. The OMB control numbers for our regulations in 40 CFR are listed in 40 CFR part 9.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of this proposed rule on small entities, small entity is defined as: (1) a small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town,

school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed action on small entities, I certify that this proposed action will not have a significant economic impact on a substantial number of small entities. EPA's proposal adds additional controls to certain sources. None of these sources are owned by small entities, and therefore are not small entities.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531-1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

Executive Order 13175, entitled Consultation and Coordination with Indian Tribal Governments (65 FR 67249,

November 9, 2000), requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." This proposed rule does not have tribal implications, as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments. Thus, Executive Order 13175 does not apply to this rule.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885, April 23, 1997), applies to any rule that: (1) is determined to be economically significant as defined under Executive Order 12866; and (2) concerns an environmental health or safety risk that we have reason to believe may have a disproportionate effect on children. EPA interprets EO 13045 as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5-501 of the EO has the potential to influence the regulation. This action is not subject to EO 13045 because it is not economically significant under Executive Order 12866 and because it implements specific standards established by Congress in statutes. However, to the extent this proposed rule will limit SO₂ emissions, the rule will have a beneficial effect on children's health by reducing air pollution.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994), establishes Federal executive policy on environmental justice. Its main provision directs Federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

This proposed rule, if finalized, would improve local air quality by reducing SO₂ emissions in a part of the Detroit metropolitan area that includes a higher proportion of minority and low-income populations compared to the State or US averages. Socioeconomic indicators such as low income, unemployment rate and percentage of people of color¹⁴ were all at levels at least

¹⁴ See <https://www.epa.gov/ejscreen/overview-demographic-indicators-ejscreen> for the definition of each demographic indicator.

two times that of the state-wide averages (in some cases two to five times higher), within one to six miles from facilities affected by this action (see EJSscreen analyses provided in the docket for this action). These populations, as well as all affected populations in this area, will stand to benefit from the increased level of environmental protection with the implementation of this rule.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control,
Incorporation by reference, Intergovernmental relations,
Reporting and recordkeeping requirements, Sulfur oxides.

Michael Regan,
Administrator.

For the reasons stated in the preamble, EPA proposes to amend 40 CFR part 52 as follows:

PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

2. Section 52.1189 is added to read as follows:

§ 52.1189 Control strategy: Sulfur Dioxide (SO₂).

(a) The plan submitted by the State on May 31, 2016 to attain the 2010 1-hour primary sulfur dioxide (SO₂) national ambient air quality standard for the Detroit SO₂ nonattainment area does not meet the requirements of Clean Air Act (CAA) section 172 with respect to SO₂ emissions from the U.S. Steel (Ecorse and Zug Island), EES Coke, Cleveland-Cliffs Steel Corporation (formerly AK or Severstal Steel), and Dearborn Industrial Generation (DIG) facilities in the Detroit, Michigan area. These requirements for these four facilities are satisfied by 40 CFR 52.1189(b)-(e), respectively.

(b) This section addresses and satisfies CAA section 172 requirements for the Detroit SO₂ nonattainment area by specifying the necessary emission limits and other control measures applicable to the U.S. Steel (Ecorse and Zug Island) facility. This section applies to the owner and operator of the facility located at 1 Quality Drive and 1300 Zug Island Road in Detroit, Michigan.

(1) *SO₂ Emission Limits.*

(i) Beginning on the effective date of the FIP, no owner or operator shall emit SO₂ from the following units in excess of the following limits:

Unit	SO ₂ Emission Limit (lbs/hr)
Boilerhouse 1 (all stacks combined)	55.00
Hot Strip Mill - Slab Reheat Furnace 1	0.31
Hot Strip Mill - Slab Reheat Furnace 2	0.31
Hot Strip Mill - Slab Reheat Furnace 3	0.31
Hot Strip Mill - Slab Reheat Furnace 4	0.31
Hot Strip Mill - Slab Reheat Furnace 5	0.31
No. 2 Baghouse	3.30
Main Plant Boiler No. 8	0.07
Main Plant Boiler No. 9	0.07
A1 Blast Furnace	0.00
B2 Blast Furnace	40.18
D4 Blast Furnace	40.18
A/B Blast Furnace Flares	60.19
D Furnace Flare	60.19

(ii) Beginning two years after the effective date of the FIP, no owner or operator shall emit SO₂ from Boilerhouse 2 in excess of the following limits:

(A) When Boilerhouse 2 is the only unit operating at the facility, an emission limit of 750.00 lbs/hr. When any unit identified in paragraph (b)(1)(i) of this section is operating in addition to Boilerhouse 2, an emission limit of 81.00 lbs/hr.

(2) *Stack Restrictions and Permit Requirements.*

(i) The owner or operator shall construct a combined stack for all Boilerhouse 2 emission points. The stack emission point must be at least 170 feet above ground level. The owner or operator shall submit a construction permit application for the stack to the State of Michigan within 90 days of the effective date of the FIP. Where any compliance obligation under this

section requires any other state or local permits or approvals, the owner or operator shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

(ii) Beginning two years after the effective date of the FIP, no owner or operator shall emit SO₂ from Boilerhouse 2, except from the stack emission point at least 170 feet above ground level.

(3) *Monitoring Requirements.*

(i) Not later than two years after the effective date of the FIP, the owner or operator shall install and continuously operate an SO₂ continuous emission monitoring system (CEMS) to measure SO₂ emissions from Boilerhouse 2 in conformance with 40 CFR part 60 appendix F procedure 1.

(ii) The owner or operator shall determine SO₂ emissions from Boilerhouse 1, Hot Strip Mill Slab Reheat Furnaces 1-5, Main Plant Boiler No. 8, Main Plan Boiler No. 9, A1 Blast Furnace, B2 Blast Furnace, D4 Blast Furnace, A/B Blast Furnace Flares, and D Furnace Flare using mass balance calculations as described in paragraph (b)(4) of this section.

(iii) Within 180 days of the installation of the CEMS specified in paragraph (b)(3)(i), the owner or operator shall perform an initial compliance test for SO₂ emissions from Boilerhouse 2 while the boilerhouse is operating in accordance with requirements identified in either paragraph (b)(1)(i) or (b)(1)(ii), whichever is applicable during the period of

testing. The initial compliance test shall be performed using EPA Test Method 6 at 40 CFR Part 60 appendix A-4.

(4) *Compliance Assurance Plan.* To determine compliance with the limits in paragraph (b)(1)(i) of this section, the owner or operator shall calculate hourly SO₂ emissions using all raw material sulfur charged into each affected emission unit and assume 100 percent conversion of total sulfur to SO₂. The owner or operator shall implement a compliance assurance plan (CAP) for all units except Boilerhouse 2 and any idled units that shall specify the calculation methodology, procedures, and inputs used in these calculations and submit the plan to EPA within 30 days after the effective date of the FIP. The owner or operator must submit a list of idled units to EPA within 30 days of the effective date of the FIP. The owner or operator must submit a CAP for any idled units prior to resuming operations.

(5) *Recordkeeping.* The owner/operator shall maintain the following records continuously for five years beginning on the effective date of the FIP:

(i) All records of production for each affected emission unit.

(ii) All records of hourly emissions calculated in accordance with the CAP.

(iii) In accordance with paragraph (b)(3) of this section, all CEMS data, including the date, place, and time of sampling or measurement; parameters sampled or measured; and results.

(iv) Records of quality assurance and quality control activities for emission monitoring systems including, but not limited to, any records required by 40 CFR part 60 appendix F Procedure 1.

(v) Records of all major maintenance activities performed on emission units, air pollution control equipment, CEMS, and other production measurement devices.

(vi) Any other records required by the Quality Assurance Requirements for Gas Continuous Emission Monitoring Systems Used for Compliance Determination rule at 40 CFR part 60 appendix F Procedure 1 or the National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities rule at 40 CFR part 63 Subpart FFFFF.

(6) *Reporting.* Beginning on the effective date of the FIP, all reports under this section shall be submitted quarterly to Compliance Tracker, Air Enforcement and Compliance Assurance Branch, U.S. Environmental Protection Agency, Region 5, Mail Code AE-17J, 77 W. Jackson Blvd., Chicago, IL 60604-3590.

(i) The owner or operator shall submit a CAP in accordance with paragraph (b)(4) of this section within 30 days of the effective date of the FIP.

(ii) The owner or operator shall report CEMS data and hourly mass balance calculations quarterly in accordance with CEMS requirements in paragraph (b)(3) of this section and the CAP requirements set forth in paragraph (b)(4) of this section

no later than the 30th day following the end of each calendar quarter.

(iii) The owner or operator shall report the results of the initial compliance test for the Boilerhouse 2 stack within 60 days of conducting the test.

(iv) The owner or operator shall submit quarterly excess emissions reports for all units identified in paragraphs (b)(1)(i) and (ii) of this section no later than the 30th day following the end of each calendar quarter. Excess emissions means emissions that exceed the emission limits specified in paragraph (b)(1) of this section. The reports shall include the magnitude, date(s), and duration of each period of excess emissions, specific identification of each period of excess emissions that occurs during all periods of operation including startups, shutdowns, and malfunctions of the unit, the nature and cause of any malfunction (if known), and the corrective action taken or preventative measures adopted.

(v) The owner or operator of each unit shall submit quarterly CEMS performance reports, to include dates and duration of each period during which the CEMS was inoperative (except for zero and span adjustments and calibration checks), reason(s) why the CEMS was inoperative and steps taken to prevent recurrence, and any CEMS repairs or adjustments no later than the 30th day following the end of each calendar quarter.

(vi) The owner or operator shall also submit results of any CEMS performance tests required by 40 CFR part 60, appendix

F, Procedure 1 (e.g., Relative Accuracy Test Audits, Relative Accuracy Audits, and Cylinder Gas Audits) no later than 30 days after the test is performed.

(vii) When no excess emissions have occurred or the CEMS has not been inoperative, repaired, or adjusted during

the reporting period, such information shall be stated in the quarterly reports required by paragraph (b)(6) of this section.(c) This section addresses and satisfies CAA section 172 requirements for the Detroit SO₂ nonattainment area by specifying the necessary emission limits and other control measures applicable to the EES Coke facility. This section applies to the owner and operator of the facility located at 1400 Zug Island Road in Detroit, Michigan.

(1) *SO₂ Emission Limits.* Beginning on the effective date of the FIP, no owner or operator shall emit SO₂ from the Underfire Combustion Stack EUCoke-Battery in excess of 544.6 lbs/hr, as a 3-hour average, or 2071 tons per year, on a 12-month rolling basis as determined at the end of each calendar month, or 0.702 pounds per 1000 standard cubic feet of coke oven gas, as a 1-hour average.

(2) *Monitoring requirements.* The owner or operator shall maintain and operate in a satisfactory manner a device to monitor and record the SO₂ emissions from the Underfire Combustion Stack EUCoke-Battery on a continuous basis. The owner or operator shall use Continuous Emission Rate Monitoring (CERM) data for determining compliance with the hourly limit in

paragraph (c)(1) of this section. The owner or operator shall operate the CERM system in conformance with 40 CFR Part 60 Appendix F.

(d) This section addresses and satisfies CAA section 172 requirements for the Detroit SO₂ nonattainment area by specifying the necessary emission limits and other control measures applicable to the Cleveland-Cliffs Steel Corporation (formerly AK or Severstal Steel) facility. This section applies to the owner and operator of the facility located at 4001 Miller Road in Dearborn, Michigan.

(1) *SO₂ Emission Limits.* Beginning on the effective date of the FIP, no owner or operator shall emit SO₂ from the following units in excess of the following limits:

Unit	SO₂ Emission Limit	Time Period/Operating Scenario
"B" Blast Furnace Baghouse Stack	71.9 lbs/hr	Calendar day average
"B" Blast Furnace Stove Stack	38.75 lbs/hr	Calendar day average
"B" Blast Furnace Baghouse and Stove Stacks (combined)	77.8 lbs/hr	Calendar day average
"B" Blast Furnace Baghouse and Stove Stacks (combined)	340 tons per year	12-month rolling time period as determined at the end of each calendar month
"C" Blast Furnace Baghouse Stack	179.65 lbs/hr	Calendar day average
"C" Blast Furnace Stove Stack	193.6 lbs/hr	Calendar day average
"C" Blast Furnace Baghouse and Stove Stacks (combined)	271.4 lbs/hr	Calendar day average
"C" Blast Furnace Baghouse and Stove Stacks (combined)	1188 tons per year	12-month rolling time period as determined at the end of each calendar month

(2) *Monitoring Requirements.* The owner or operator shall maintain and operate in a satisfactory manner a device to monitor and record the SO₂ emissions and flow from "B" Blast Furnace and "C" Blast Furnace Baghouse and Stove Stacks on a continuous basis. The owner or operator shall use CERM data for determining compliance with the hourly limits in paragraph (d)(1) of this section. The owner or operator shall operate the CERM system in conformance with 40 CFR Part 60 Appendix F.

(e) This section addresses and satisfies CAA section 172 requirements for the Detroit SO₂ nonattainment area by specifying the necessary emission limits and other control measures applicable to the Dearborn Industrial Generation (DIG) facility. This section applies to the owner and operator of the facility located at 2400 Miller Road in Dearborn, Michigan.

(1) *SO₂ Emission Limits.*

(i) Beginning on the effective date of the FIP, no owner or operator shall emit SO₂ from the following units in excess of the following limits:

Unit	SO ₂ Emission Limit	Time Period/Operating Scenario
Boilers 1, 2, and 3 (combined)	420 lbs/hr	Daily average
Boilers 1, 2, and 3 (combined)	1839.6 tons per year	12-month rolling time period
Boilers 1, 2, and 3 and Flares 1 and 2 (combined)	840 lbs/hr	Daily average
Boilers 1, 2, and 3 and Flares 1 and 2 (combined)	2947.7 tons per year	12-month rolling time period as determined at the end of each calendar month

(2) *Monitoring Requirements.* The owner or operator shall maintain and operate in a satisfactory manner a device to monitor and record the SO₂ emissions from Boilers 1, 2, and 3 on a continuous basis. Installation and operation of each CEMS shall meet the timelines, requirements and reporting detailed in 40 CFR Part 60 Appendix F. If the owner or operator chooses to use a Predictive Emissions Monitoring System (PEMS) in lieu of a CEMS to monitor SO₂ emissions, the permittee shall follow the protocol delineated in Performance Specification 16 in Appendix B of 40 CFR Part 60.

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